

REMARKS

Claim Rejections – 35 USC §112

Claim 17 has been rejected as being indefinite under 35 USC §112. Claim 17 has been amended to depend from independent claim 19. The objection to claim 17 is now believed to be moot and withdrawal of the same is respectfully requested.

Claim Rejections – 35 USC §102 and §103

Claims 2-8, 11-12, 16-17 and 19 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,431,189 to Deibert (the “Deibert reference”). Claims 2-8, 17 and 19 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,688,585 to Vetter (the “Vetter reference”). Claims 2-8, 11-17, 19, 20 and 22-29 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,552,163 to Biancalana et al. (the “Biancalana et al. reference”). Claims 10 and 30 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Deibert, Vetter or Biancalana et al. references in view of U.S. Patent No. 6,029,681 to Gaydoul et al. (the “Gaydoul et al. reference”).

It is well established that “an invention is anticipated if the same device, including all the claim limitations, is shown in a single prior art reference. Every element of the claimed invention must be literally present, arranged as in the claim.” Richardson v. Suzuki Motor Co. Ltd., 9 USPQ.2d 1913, 1920 (Fed. Cir. 1989). As will be discussed in greater detail below, the Applicant submits that each and every element and feature recited in independent claims 19, 24 and 26 is neither shown nor suggested in any of the references of record, whether considered alone or in combination.

In response to the assertions set forth in the second non-final Office Action, the Applicant has amended independent claims 19, 24 and 26 to improve their form. Additionally, the Applicant has rewritten independent claims 10 and 17 to depend from independent claim 19. Claims 7, 8, 12, 22, and 29 have been amended to conform with the amendments made to their respective independent base claims. As a result of these amendments, the subject application is now limited to three (3) independent claims; namely, independent claims 19, 24 and 26.

The Office Action states that “[r]e claims 19, 24 and 26, applicant’s argument is unpersuasive because the term ‘the cleaning solution comprising a mixture of compressed air and an alcohol’ is not [a] component for the cleaning apparatus, and also because the cleaning solution could be any mixture of fluids.” (Page 5, lines 3-6). The Applicant respectfully disagrees with these assertions for at least the following reasons. As an initial matter, the Applicant submits that the cleaning solution is an expressed element of the claimed apparatus for cleaning a part. Indeed, the claiming of a solution in combination with other structural elements is both appropriate and proper under U.S. patent law. Nevertheless, the Applicant has amended each of the independent claims 19, 24 and 26 to more clearly and positively recite the cleaning solution as an element of the cleaning apparatus. Specifically, each of the independent claims 19, 24 and 26 has been amended to clearly recite “a cleaning solution comprising a mixture of compressed air and an alcohol” as an element of the cleaning apparatus. If the assertion that the cleaning solution is not an element of the cleaning apparatus is maintained, the Applicant respectfully requests specific rational and support for this position.

Additionally, with regard to the statement in the Office Action that “the cleaning solution could be any mixture of fluids”, although various types of solutions/mixtures could arguably be

used to clean parts, the Applicant is not claiming “any mixture of fluids”, but is instead claiming a specific cleaning solution comprising a mixture of compressed air and alcohol. As will be discussed below, there is no teaching or suggestion in the patent references of record regarding this particular cleaning solution in association with the type of cleaning apparatus recited in independent claims 19, 24 and 26.

Referring to the Deibert reference, disclosed therein is an apparatus which utilizes a mixture of fresh water and a disinfectant solution to disinfect a user’s hands. (See Abstract). Notably, there is no indication or suggestion of using a cleaning solution that includes either compressed air or an alcohol. The Vetter reference discloses an automatic washer for cleaning hands and sterilizing articles that sprays a cleaning media including water and, if necessary, a gaseous cleaning media. (See Col. 4, ll. 37-39). Once again, there is no indication of using a cleaning solution that includes either compressed air or an alcohol. As to the Biancalana et al. reference, disclosed therein is a dental cleaning device which sprays disinfectant onto the dental instruments or other dental devices positioned within the housing. However, as indicated on page 7 of the first Office Action (paper No. 4), the Biancalana et al. reference fails to teach or suggest the inclusion of a cleaning solution comprising a mixture of compressed air and an alcohol. Accordingly, none of the asserted patent references disclose or suggest a cleaning apparatus or device in combination with a cleaning solution comprising a mixture of compressed air and an alcohol.

Although the Benedict et al. reference (U.S. Patent No. 5,339,843) appears to disclose the use of an alcohol in association with a controlled agitation cleaning system, as discussed in detail via the Applicant’s response to the first Office Action (Paper No. 5), the cleaning system

disclosed in the Benedict et al. reference is significantly and distinguishably different from the cleaning apparatus recited in independent claims 19, 24 and 26. In summary, the Benedict et al. reference is directed to an immersion-type cleaning system wherein the parts to be cleaned are placed into a bath of cleaning fluid 14. Additionally, the Benedict et al. reference expressly states that combustible vapor production is to be specifically avoided (col. 3, ll. 9-13) and that various features are incorporated into the cleaning system to eliminate flammability hazards.

However, the cleaning apparatus recited in each of the independent claims 19, 24 and 26 utilizes a spray-type system wherein a mixture of compressed air and air borne alcohol is sprayed onto the part to be cleaned. Indeed, the use of a mixture of compressed air and alcohol is directly contrary to the teachings of the Benedict et al. reference which, as discussed above, stresses the importance of minimizing combustible vapor production. The cleaning apparatus recited in independent claims 19, 24 and 26 clearly does not minimize combustible vapors, but instead generates an airborne vapor-like solution comprised of compressed air and alcohol that is sprayed onto the part to be cleaned. Accordingly, the Benedict et al. reference actually teaches away from the use of an airborne cleaning solution comprised of compressed air and alcohol, as recited in each of the independent claims 19, 24 and 26.

Moreover, distinct advantages are realized by using the particular cleaning solution recited in independent claims 19, 24 and 26. For example, a cleaning solution comprised of a mixture of compressed air and an alcohol provides cleaning capabilities that are not realized by the cleaning systems disclosed in the cited patent references. Notably, alcohol is itself an excellent cleaner. However, when mixed with compressed air, the resulting stream of cleaning solution has even greater cleaning ability due to the impact force provided by the airborne solution stream

against the part. This advantage is clearly not provided by the cleaning system disclosed in any of the patent references of record.

Another advantage provided by the particular cleaning solution recited in independent claims 19, 24 and 26 is the minimization of fluidic waste material. Notably, alcohol has a relatively high evaporation rate compared to other fluids such as water. The evaporation rate is even further enhanced when the alcohol is mixed with compressed air to form the cleaning solution recited in independent claims 19, 24 and 26. As should be appreciated, the use of a cleaning solution comprised of mixture of compressed air and alcohol tends to reduce the amount of fluidic waste material generated by the cleaning apparatus. The enhanced evaporation feature and the resulting reduction in fluidic waste is neither taught nor suggested by any of the cited patent references, whether considered alone or in combination. As indicated above, with the exception of the Benedict et al. reference, none of the patent references of record disclose or suggest a cleaning device which utilizes a cleaning solution including an alcohol, much less a mixture of compressed air and an alcohol. As a result, the amount of fluidic waste generated by these prior cleaning devices is substantial in comparison to that of the cleaning apparatus recited in each of the independent claims 19, 24 and 26.

For at least the reasons discussed above, none of the patent references of record disclose the subject matter recited in independent claims 19, 24 and 26, whether taken alone or in combination with one another. Accordingly, the Applicant respectfully requests withdrawal of the rejection of independent claims 19, 24 and 26.

Claims 2-8 and 10-17 depend either directly or indirectly from independent claim 19 and are patentable for at least the reasons supporting the patentability of independent base claim 19.

However, additional reasons support the patentability of the claims depending from independent base claim 19. For example, dependent claim 13 further recites a mixer, with the valve supplying the compressed air to the mixer in response to a control signal, and the mixer intermixing the alcohol with the compressed air to form said cleaning solution. Additionally, dependent claims 14 and 15 recite further features associated with the mixer. As discussed above, none of the cited patent references disclose the use of cleaning solution comprised of compressed air and an alcohol, much less a mixer for forming the recited cleaning solution. Accordingly, the subject matter recited in dependent claims 13-15 is patentable over the art of record in addition to the reasons supporting the patentability of independent base claim 19.

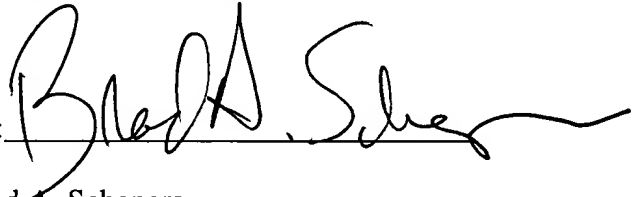
Claims 22, 23 and 25 depend directly from independent claim 24, and are patentable for at least the reasons supporting the patentability of independent base claim 24. Additionally, claims 27-30 depend directly from independent claim 26, and are patentable for at least the reasons supporting the patentability of independent base claim 26.

CONCLUSION

In view of the foregoing remarks, it is respectfully submitted that the Applicant's application is now in condition for allowance with pending claims 2-8, 10-17, 19, 20 and 22-30.

Reconsideration of the subject application is respectfully requested. Timely action towards a Notice of Allowability is hereby solicited. The Examiner is encouraged to contact the undersigned by telephone to resolve any outstanding matters concerning the subject application.

Respectfully submitted,

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